REMARKS

The present invention is directed to a polyester fiber structure produced using a polyester resin with satisfactory color tones and excellent moldability.

Claims 1-7 and 9-14 are pending in the current application. This Response is filed in response to the non-final Office Action dated March 17, 2008. The Office Action indicated that:

Claims 1 - 7 and 9 - 14 were rejected under 35 U.S.C. § 103(a) as being assertedly unpatentable over U.S. Patent 6,372,343 ("Yamada") in view of U.S. Patent 6,593,447 ("Yamamoto") combined with U.S. Patent 4,254,018 ("Kowallik");

Claim 15 was rejected under 35 U.S.C. § 103(a) as being assertedly unpatentable over Yamada in view of Yamamoto combined with Kowallik and further in view of U.S. Patent 5,096,722 ("Bair");

Claims 1 - 7 were rejected on the ground of non-statutory obviousness-type double patenting as being assertedly unpatentable over claims 1 - 6 of U.S. Patent 7,087,299 ("Konishi") in view of Yamada;

Claims 1 - 6 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being assertedly unpatentable over claims 1 - 20 of co-pending Application No. 10/542,373;

Claims 1 - 6 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being assertedly unpatentable over claims 1 - 15 of co-pending Application No. 10/535,419;

Claims 1 - 6 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being assertedly unpatentable over claims 1 - 16 of co-pending Application No. 10/540,880; and

Claims 1 - 6 were rejected on the ground of non-statutory obviousness-type double patenting as being assertedly unpatentable over claims 1 - 8 and 20 - 21 of U.S. Patent 7,189,797, in view of Yamada combined with Yamamoto and Kowallik. The Examiner indicated in paragraph 4.2 on page 8 of the Detailed Action that "claims 1-7 directed to an invention not patentably distinct from claims 1-6 of commonly assigned U.S. Patent No. 7,189,797 as it is shown above." It appears that the Examiner has made an error with respect to the recitation of the rejected claims. Clarification is respectfully requested.

Applicant traverses and requests reconsideration and withdrawal of the above-mentioned rejections in view of the following remarks. Further, the Office Action Summary does not include claim 15. Applicant respectfully requests that the Examiner acknowledge that claim 15 is pending.

I. Response to Rejection Under 35 U.S.C. § 103(a) Based on Yamada, Yamamoto, Kowallik and Bair

The polyester fiber structure of the present invention as recited in claim 1 is characterized by Features (I) and (II).

Feature (I): The polyester fiber structure comprises at least one type of structure selected from the group consisting of:

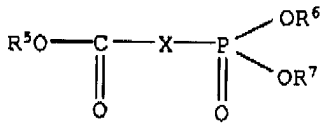
(1) non-woven fabrics comprising said polyester fibers;

(2) waddings comprising said polyester fibers; and

(3) staple fiber structures comprising (i) main fibers consisting of polyester staple fibers and (ii) thermal bonding conjugate staple fibers comprising a heat-sealing polymer and a fiber-forming

thermoplastic polymer, and having a thickness of 5 to 100 mm, which heat-sealing polymer is exposed on the surfaces of the thermal bonding conjugated staple fibers, and said polyester polymer comprises said main fibers and/or thermal bonding conjugate staple fibers.

Feature (II): the polyester fiber is obtained by polycondensation of an aromatic dicarboxylate ester in the presence of a catalyst as defined in claim 1, wherein the catalyst comprises a mixture (1) of a titanium compound component (A) with a phosphorus compound component (B) composed of at least one compound represented of the formula (III);



(III)

Mixture (1) is used with a mixing ratio such that the ratio (%) M_{Ti} of the millimoles of elemental titanium in said titanium compound component (A) with respect to the number of moles of said aromatic dicarboxylate ester and the ratio (%) M_p of the millimoles of elemental phosphorus in the phosphorus compound component (B) with respect to the number of moles of said aromatic dicarboxylate ester satisfy the following relational expressions (i) and (ii):

$$1 \leq M_p/M_{Ti} \leq 15 \qquad \text{(i)}$$

$$10 \leq M_p+M_{Ti} \leq 100 \qquad \text{(ii)}.$$

The combination of Feature (I) and Feature (II) enables the resulting polyester fiber structure to exhibit good color tone and excellent quality. Also importantly, these features render the present claims patentably distinct over Yamada, Yamamoto, Kowallik, and Bair, independently and/or combined, for the following reasons.

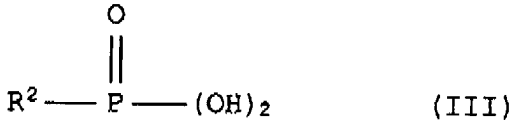
U.S. Patent 6,372,343 ("Yamada")

Yamada discloses a fiber structure comprising crimped polytrimethylene terephthalate-based polyester fibers and heat-bonding conjugate staple fibers in a weight ratio of from 30:70 to 95:5. However, Yamada does not teach or suggest the specific polycondensation catalyst, Feature (II), as defined in claim 1 of the present claims. Accordingly, Yamada does not render the present claims obvious.

U.S. Patent 6,593,447 ("Yamamoto")

Yamamoto discloses a polyester polymer produced by polymerizing an alkyleneglycol ester of an aromatic dicarboxylic acid or an oligomer thereof in the presence of a catalyst, which is a reaction product of a titanium compound component with a phosphorus compound component.

The phosphorus compound component taught in Yamamoto is represented by formula (III), below:



(III)

wherein R^2 represents an unsubstituted or substituted C_6-C_{20} aryl group or C_1-C_{20} alkyl group. Thus, the phosphorus compound of the formula (III) of Yamamoto is a C_6-C_{20} aryl or C_1-C_{20} alkyl phosphonic acid.

Contrarily, the phosphorus compound of Formula (V) in present claim 1 is a mono- or di-C_1-C_{20} alkyl or C_6-C_{20} aryl phosphate, which is structurally different from formula (III) of

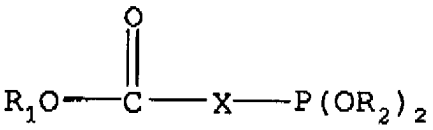
Yamamoto. Namely, Formula (V) in present claim 1 has a $-OR^{12}$ moiety. Formula (III) of Yamamoto has a carbon linked moiety, alkyl or aryl represented by R^2. Thus, Formula (V) in present claim 1 is patentably distinct from the phosphorus compound of the formula (III) in Yamamoto.

Also, the phosphorus compound of the formula (III) of Yamamoto is different from the phosphorus compound of the Formula (III) recited in present claim 1. Namely present Formula (III) has a di-C_1-C_4 alkyl ester moiety of the carboalkoxy-methane or phenylmethane-phosphonic acid core.

For the above-mentioned reasons, Yamamoto does not teach or suggest the specific polycondensation catalyst of the present invention (Feature (II)). Also, Yamamoto does not teach or suggest feature (I) of the presently claimed invention. Accordingly, Yamamoto does not render the presently claimed invention obvious.

U.S. Patent 4,254,018 ("Kowallik")

Kowallik discloses a method of producing a linear homopolymer or copolyester by using a copolycondensation catalyst and a heat-stabilizer comprising a phosphonate represented by the formula;



wherein R_1 and R_2 respectively and dependently from each other represent an alkyl group having 1 to 4 carbon atoms and X represent a $-CH_2-$ or $CH(C_6H_5)-$ group.

The copolycondensation catalysts disclosed in Kowallik are antimony oxide, germanium oxide titanium methylate and other conventional titanium catalysts, preferably antimony oxide, germanium oxide or a mixture of these two. However, in view of Examples 1 to 14 of Kowallik, no titanium compound is used as a component of the polycondensation catalyst. Thus, Kowallik is silent as to the requirements (i) and (ii) for the amounts of phosphor element to the titanium element contained in the catalyst. Thus, Kowallik does not teach or suggest Feature (II) of the present invention.

Also, Kowallik is silent as to Feature (I) in the present invention, i.e., the polyester fiber structure. Thus, Kowallik cannot teach or suggest the present invention comprising Features (I) and (II), and therefore does not render the present claims obvious.

U.S. Patent 5,096,722 ("Bair")

Bair teaches a microwavable food package having a transparent film portion, for containing food resting on a grease-absorbing pad, which pad consists essentially of a needle-punched polyester staple fiber core layer and a porous outer layer.

Bair does not teach or suggest the combination of Feature (I) with Feature (II) and the specific advantages of the present invention. Accordingly, Bair does not render the presently claimed invention obvious.

The Cited References do Not Teach or Suggest Every Limitation in the Claims

The Examiner appears to take the position that it would have been obvious for a person having ordinary skill in the art at the time of the invention to use a polyester-based fiber structure

taught in Yamamoto in view of Yamada when combined with Kowallik for a process involving contact with food as taught in Bair.

However, none of the cited references teach or suggest Feature (II) of the present invention, in which the catalyst must comprise a mixture (1) of the titanium compound component (A) with the phosphorus compound component (B) in a specific mixing ratio of elemental phosphorus to elemental titanium satisfying requirements (i) and (ii), as defined in claim 1, nor a reaction product (2) of the titanium compound component (C) with the phosphorus compound component (D) composed of at least one phosphorus compound represented by Formula (V) in present claim 1.

Accordingly, no combination of the cited references renders the polyester fiber structure as recited in present claims obvious. Applicant respectfully request that the 35 U.S.C. § 103(a) rejection of claims 1-7 and 9-15 based on the combination of Yamada, Yamamoto and Kowallik and/or the combination of Yamada, Yamamoto, Kowallik and Bair be withdrawn.

II. Response to Nonstatutory Double Patenting Rejections

Claims 1-7 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent 7,087,299.

Claims 1-6 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 and 20-21 of U.S. Patent 7,189,797 in view of Yamada (U.S. Patent 6,372,343) and further in view of Yamamoto (U.S. Patent 6,593,447).

Applicant traverses in view of the following remarks.

Neither US Patent 7,087,299 nor US Patent 7,189,797 disclose or suggest the advantages of Feature (I) of the present invention. Therefore the present claims distinguish over and would not

have been obvious in view of the cited patents. Accordingly, Applicant respectfully submits that these obviousness type double-patenting rejections should be withdrawn.

III. Response to Provisional Non-statutory Double Patenting Rejections

Claims 1-6 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of co-pending Application No. 10/542,373.

Claims 1-6 were also provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of co-pending Application No. 10/535,419.

Claims 1-6 were furthermore provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of co-pending Application No. 10/540,880.

Applicant respectfully requests that the Examiner hold these provisional rejections in abeyance until allowable subject matter is indicated in one of the applications.

IV. Information Disclosure Statement

It is understood that the documents submitted with Applicant's Information Disclosure Statement were generally considered by the Examiner. However, JP 2003-150655, JP 2003-70083, JP 47-26597, JP 48-2229, JP 58-38722, JP 2003-070082, JP 2003-067840, JP 2003-008162, JP 2003-008158, CN 1078274, JP 63-12737 and JP 10-25633 were lined through on Form PTO/SB/08, for reasons that are not clear. The undersigned has been unable to obtain English abstracts of some of these documents. Applicant respectfully requests the Examiner's consideration of these documents since these documents were cited in a related application.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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